Teacher Leadership:
An Appealing and Inescapable Force in School Reform?

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Teacher Leadership and Professional Development

Over the next decade, the success of standards-based reforms will hinge, increasingly, on teachers' professional development. Unlike the "restructuring" reforms of the late 1980s and early 1990s that attempted to improve student outcomes by making changes in the organization of schooling, these more recent reforms call for fundamental change at the very core of teaching and learning. As Thompson and Zeuli (1999) noted, "Students must think in order to learn." Teaching that provides students with frequent and well-designed opportunities to think departs in significant ways from what we see in traditional classrooms. This is particularly true when we look at science, mathematics, and technology education. Helping teachers to make this fundamental shift in practice requires more powerful approaches to professional development.

One response among large districts throughout the country has been to identify and deploy a corps of *teacher leaders* to provide support to their colleagues in changing instructional practice. As we suggest below, not only is the notion of teacher leadership intuitively appealing ("teachers teaching teachers") but, given the nature and scale of mathematics and science reforms, almost inescapable.

"Teacher leader" is a generic term that applies to individuals in a variety of roles (Moller and Katzenmeyer 1996, Lieberman, Saxl and Miles 1988). It most often refers to teachers who are out of the classroom full-time to assume some kind of leadership role in promoting change in classroom practice among large numbers of teachers. These people may be based in one or more school buildings or have responsibilities across a district. Teacher leader can also refer to teachers who remain in the classroom and assume, on top of their full-time teaching responsibilities, some role in promoting change. Less frequently, teacher leader refers to teachers who have a reduced teaching load, for

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example teaching three periods of the day and acting in a leadership capacity for the balance of their contracted time.

At present, we do not know enough about teacher leadership to make bold claims for its effectiveness in helping reforms go to scale or improving student achievement. However, preliminary research findings point to one critical feature. Teacher leadership is often treated as a strictly instrumental strategy to increase the number of professional development providers – putting in place more people to provide more contact hours with classroom teachers. This approach offers limited promise of achieving reformers' goals. Yet, when teachers leaders are part of a wider, systemic strategy, within a well-aligned constellation of district supports (e.g., assessment and accountability systems, programs for curriculum implementation), the potential for impact is greater. For this reason, we view teacher leadership less as a magic bullet for quickly solving the "numbers" problem and more as a critical feature in a coherent and focused set of district policies to address the substantive challenges of reform.

What Do Teacher Leaders Do?

Teacher leaders are generally working toward the same goal: to promote and support change in teachers' classroom practice (Medina and St. John 1997, Smylie and Denny 1990). They are sometimes described as the "front-line forces," those who have the greatest amount of contact with classroom teachers and therefore the greatest likelihood to effect change in teachers' practice. How that goal of changing practice gets interpreted, though, is reflected in the different kinds of work that teacher leaders do. Districts and schools, at some fundamental level, make decisions about the role of teacher leaders in their system. Sometimes these decisions are strategic, providing a clear focus for leadership work and utilizing teacher leaders as one of a number of resources to promote reform (Lord et al. 2000, Elmore and Burney 1999). Sometimes there is no explicit or public decision-making about what teacher leaders do, and their role evolves as teacher leaders tackle the challenges of changing their colleagues' classroom practice. Thus, it is important to understand how the particular district, school, or even project shapes the work and experience of teacher leaders (Wasley 1991).

There are many different designations for individuals in a teacher leader role. Depending on the district or school context, they may be referred to as mentor teachers, specialists, resource teachers, demonstration teachers, model teachers, coaches, peer teachers or teachers on special assignment. The variety of titles contributes to the difficulty in talking about teacher leader roles more generally. In one district, a mentor teacher may be assigned to work with novice teachers to master instructional strategies. In another district, a mentor teacher may do a demonstration lesson for a classroom teacher who asked the mentor for help. Currently, there is no common language for teacher leaders; there is only the local vernacular. Thus, to develop an understanding of what teacher leaders do – regardless of their titles – we need to look more closely at their work in context.

We can learn more about the mission of teacher leaders when we look at their identification with subject area or grade level. A district that identifies teacher leaders as mathematics specialists or science specialists focuses on developing among teachers a deeper understanding of a particular discipline. Teacher leaders' own content knowledge and expertise within a discipline shapes their work. A district that identifies teacher leaders by grade level, for example K-5 coaches, emphasizes the capacity of those people to work with populations of teachers across disciplines. These teacher leaders draw heavily on their own teaching experience and knowledge of students, curriculum, and pedagogy at particular grade levels. A district with K-12 peer teachers, for example, is a place where teacher leaders are responsible for working with a cluster of elementary, middle and high schools that feed into one another. Here, teacher leaders might be expected to develop and sustain coherence and good relationships across those grade levels and among those schools through a K-12 curriculum plan or shared instructional practices.

In practice, the work of teacher leaders can be quite varied (Loucks-Horsley et al. 1998, Lieberman 1992). In some systems, district staff or principals make decisions about how teacher leaders spend their time and what responsibilities they assume. In other systems, teacher leaders are asked to use their own professional judgment in determining what they do and how they work. The work of teacher leaders can be organized into four categories:

- working with individual teachers in classroom settings
- working with groups of teachers in workshop or comparable professional development settings
- working with teachers, administrators, community members or students on issues or programs that indirectly support classroom teaching/learning experiences
- working with various constituents on the task *du jour*

We describe below the kinds of responsibilities that fall within each category of work. Taken together, this is a large set of responsibilities and there are teacher leaders who are involved in all four kinds of work. For the majority of teacher leaders, the first two categories – working in classrooms and working in professional development settings – occupy most of their time.

In-classroom support. Teacher leaders typically provide some kind of support to individual teachers in their classrooms, working to help them change their teaching practice in some way. They might demonstrate a lesson for a teacher, team teach, observe and critique a lesson a teacher teaches, or assist with planning. In-classroom support from teacher leaders also means introducing or providing needed materials to implement a lesson or unit. As teacher leaders work with individual teachers in classrooms, their efforts can run the gamut from encouraging teachers to try new strategies or materials through fine-tuning teachers' skillful use and sophisticated understanding of those strategies or materials.

In one district we have studied, teacher leaders provide a sequenced program of classroom support. For a teacher who is just starting to implement a new mathematics

curriculum, the teacher leader begins by demonstrating one or more lessons. She teaches the lesson in the teacher's classroom while the teacher observes. This demonstration is followed by discussion with the teacher about the lesson's goals, its components, and the challenges it posed for students or for the teacher. Next, the teacher leader observes the teacher teaching one or more lessons, again followed by a debrief and critique session in which the teacher leader offers feedback and elicits reactions from the teacher. Beyond this sequence of demonstrate-debrief-observe-debrief, the teacher leader tailors the next steps to the needs of this classroom teacher – team teaching a new type of lesson, continuing to observe and debrief, or assisting in lesson planning.

In another district that we have studied, teacher leaders do demonstration lessons but are not able to observe teacher leaders because of union regulations. In a third district, some teacher leaders team teach with the classroom teachers but don't do demonstration lessons, while other teacher leaders in that same district emphasize observation. Their choices seem to be based on what they, as teacher leaders, feel most comfortable offering to classroom teachers.

Professional development activities. Teacher leaders typically plan and deliver professional development to groups of colleagues, usually in the form of workshops held after school or on teacher inservice days. Teacher leaders might also staff institutes of longer duration during the summer or other times when teachers are not teaching. Professional development in workshop or institute settings is usually structured to communicate or explore new curriculum, unfamiliar subject area content, or innovative instruction or assessment strategies. Sometimes the professional development is more ongoing in nature, part of a larger program of workshop follow-up in classrooms or in another group setting.

In one project with which we have worked, a science teacher leader was part of a teaching team for a summer institute for teachers. He and others planned and delivered two weeks of instruction in selected earth science topics and investigated specific science curriculum materials that developed those topics for students. In another site that we have studied, a teacher leader offered a two-hour after-school workshop on the graphing calculator. In a third site, a teacher leader and a mathematics supervisor led a series of workshops on a particular curriculum that was being implemented across the district.

Indirect support to classrooms. Compared to offering direct support in classrooms or through professional development, teacher leaders often have responsibilities that indirectly support changes in classroom practice. They serve on and facilitate curriculum or standards committees. They work in community-based partnerships that provide additional resources to schools. They represent their district or school at conferences, on task forces, or in meetings. They act as a liaison between the district offices and the school building. They develop curriculum and/or manage inventories of materials.

Task du jour. More often than teacher leaders would like, they are asked to respond to a crisis situation. They act as substitutes in classrooms, take on teacher evaluation responsibilities that a principal is unable to do, deal with student disciplinary matters, or

transport materials from one building to another. Teacher leaders do this work for a variety of reasons. For some teacher leaders, being responsive to the situation at hand and willing to help out wherever they are needed is their entry ticket into a building or classroom in order to help teachers. For other teacher leaders, they are not in a position to say "no" to whatever task is set before them.

These duties hint at the range of responsibilities that teacher leaders are assigned, choose, or accumulate. The longer the tenure of teacher leaders, particularly if they are perceived as successful in their role, the greater the responsibilities they bear and the longer the list of duties they are expected to fulfill.

Teacher Leaders in Science, Mathematics, and Technology Reform

Nowhere has the use of teacher leaders been more visible and played a more significant role in efforts to achieve large-scale reform of teaching practices than in science, mathematics and technology education (SMT). Large and mid-size school districts, such as those funded under the National Science Foundation's Urban Systemic Initiatives and Local Systemic Change programs, are turning to teacher leaders to help introduce, disseminate, and sustain reforms in these important subject areas (Weiss et al. 1999, Briars 1999, Navarro and Natalicio 1999, Miller and Mark 1995, St. John et al. 1994).

The deployment of teacher leaders in SMT reform reflects the goals and characteristics of the reforms themselves. These reforms are complex and ambitious, aiming to supplant conceptually weak curricula and instruction with more rigorous and more engaging approaches to student learning. They aim to create greater coherence in K-12 mathematics and science programs within and across grades and aim to reach all students in all grades, not just high achieving students, thereby increasing performance and SMT literacy district wide (NRC 1996, AAAS 1993, NCTM 1989).

It is the complexity and ambitiousness of reform, however, that drives districts toward teacher leadership. If districts expect to foster a wholesale transformation in SMT teaching and learning (i.e., instruction in which "students must think in order to learn"), they will need to provide enhanced opportunities and support for teachers' professional development (Ball and Cohen 1999, Ball 1996, Elmore and Burney 1999, Loucks-Horsley and Matsumoto 1999, Thompson and Zeuli 1999). Yet, this need emerges at the same time that most districts are cutting back on central office staff, especially in the core content areas. There are simply too few administrative staff with the needed expertise or experience to provide the professional development that might lead to lasting change among classroom teachers. The most likely source for satisfying this leadership deficit is the district's corps of experienced teachers. Because they are already under contract, know the system well, and are often familiar with the content of the changes being sought, they are likely candidates for advancing SMT reform.

Districts most often deploy SMT teacher leaders to help them solve three critical problems of large-scale reform—reach, persuasion, and sustainability. First, and most

simply, the sheer magnitude of the task of *reaching* all SMT teachers in districts committed to reform requires a large number of skilled and experienced leaders who can serve as intermediaries between district policy and classroom practice. Providing even the most basic level of professional development for hundreds or even thousands of teachers requires adequate staff. Second, among a district's teachers will be those who are skeptical or openly resistant to proposed changes and who need *persuading*. Teacher leaders are well positioned to act as messengers and agents of change. They are ideally suited to the task of communicating to all SMT teachers the new and exciting pictures of what students should know and be able to do in science, mathematics and technology. Because they are experienced teachers themselves, they can help to make these images more accessible and persuasive to their colleagues in the classroom. And third, districts *sustaining* reforms beyond the duration of initial funding and the exposure to initial training will need to support capacity building at the school and classroom level. Through on-site modeling, coaching, and mentoring, teacher leaders help classroom teachers acquire not just mechanical knowledge about new curriculum, but the capacity for informed judgment and a commitment to SMT reforms.

What Issues Does Teacher Leadership Raise?

Teacher leadership, in principle, does appear intuitively appealing as well as inescapable, given the demands of mathematics, science and technology reform and the realities of today's districts and schools. The work of teacher leaders is valued and yet it is quite diverse, a reflection of the different expectations held for teacher leaders as they help teachers change classroom practice. As more districts and schools turn to teacher leaders to support reform efforts and as those districts and schools with a history of teacher leadership gain more experience, the following issues take on greater urgency:

Leaders in an Egalitarian Profession. The term teacher leader embodies a contradiction identified by many individuals in the role. On the one hand, teacher leaders identify themselves as teachers, as classroom practitioners whose experience and knowledge are honed by their years with students and curriculum and whose credibility among their peers is typically based on their classroom work. On the other hand, teacher leaders are called to be leaders in a profession that historically has few recognized avenues for teachers in leadership roles. Teacher leaders are different from administrators, the obvious leadership path in the education profession. All of this means that teacher leaders operate in a different professional space from their teaching colleagues and many speak of their discomfort in being seen as separate from other teachers (Boles and Troen 1997). In a profession characterized by relatively flat career trajectories, little public recognition for expertise, and norms of egalitarianism (Hart 1995, Johnson 1990, Little 1988), teacher leaders stand out as an interesting experiment. They are teachers, one of the rank and file. Yet, they are also leaders, somehow set apart from other teachers.

Training and Support. A common view among policy makers and district leaders is that an expert teacher will make an expert teacher leader. If these individuals are

confident and competent in working with their students, the assumption is that they should be able to provide direction to their colleagues. This reasoning often fails in practice. There are many great teachers who lack the skills of leadership. For example, they may not be skilled in facilitating workshops for adults or making public presentations, have little experience in negotiating with principals and teachers to gain access to classrooms in low-performing schools, or limited patience for working with adults not yet convinced of the importance of change. In short, preparing highly skilled classroom teachers to be effective teacher leaders takes training (Miller et al. in press, Loucks-Horsley et al. 1998, Moller and Katzenmeyer 1996) as well as a system of supports including accountability, assessment and professional development. Recruiting skilled teachers to these leadership positions is not, in itself, a guarantee that they will be able to foster broader change.

Opportunity Costs. Full-time release teacher leaders give up their own classrooms to work with other SMT teachers. This has costs. Many teachers are reluctant to abandon the classroom for any length of time. They enjoy working with their students and recognize that their professional credibility rests, at least in part, on their skill in the classroom. Too long an absence from the classroom begins to erode the foundations of legitimacy for the work they do. Principals, too, are reluctant to give up their premier teachers to these district- or school-wide positions. Excellent teachers are a valuable resource for any school, especially in mathematics and science, and many school-based administrators discourage their departure from the classroom. At the same time, teacher leaders who remain in the classroom full- or part-time find it difficult to preserve the time and energy needed to carry out their leadership work, in addition to their teaching responsibilities.

Demands of the Job. Most teacher leaders have extremely challenging jobs. Many feel overwhelmed by the task. Not only must they address the needs of those teachers committed to change, but they must also work with classroom teachers resistant to change, those who see the presence of teacher leaders as an intrusion rather than a source of support. Some teacher leaders are in brand-new positions and there are no norms or precedents for their work. Most teacher leaders are trying to achieve ambitious goals on impossibly short timelines. The stresses of the job are relieved somewhat in districts that have aligned curriculum with assessment or support sustained professional development for teachers, because such policies serve as powerful reinforcements for teacher leaders' work in the schools. In districts where these policies are in place and enacted, teacher leaders may feel empowered, even impassioned, about their work. Where these policies are not well articulated, teacher leaders may find themselves under appreciated. Indeed, some describe themselves as targets or lightning rods for district changes, and feel that the burden of reform has been placed squarely on their shoulders.

Effectiveness. At present, little is known about the overall effectiveness of teacher leadership strategies in achieving change in teachers' practice and improvement in student performance. Districts, especially with large mathematics and science reform efforts, make an effort to track the work of their teacher leaders through the number of visits to schools, number of hours of direct contact with classroom teachers, and number

of workshop hours provided. They also collect data about individual activities led by teacher leaders, based on participant evaluations. However, the effectiveness of the teacher leadership strategy in helping schools or districts achieve improved student performance is not well documented. Anecdotal evidence, focusing on the connection between teacher leadership and changes in teachers' practice, is mixed. We see positive outcomes when teacher leadership is part of an entire district infrastructure for mathematics and/or science reform. Districts with coherent curriculum programs, professional development that supports teachers' thoughtful and skillful use of curriculum, accountability systems that hold all teachers and administrators responsible for teaching the curriculum, and assessments that provide appropriate measures of what students are expected to learn are most likely to have effective teacher leadership. An important first step in understanding effectiveness is to gain a clear picture of models and configurations of teacher leadership, a clear image of where and how leaders are deployed and toward what end.

Other Options. Given the urgency of mathematics and science education reforms and the apparent challenges facing districts as they employ teacher leadership strategies, reformers are considering other options for achieving change on scale. Prominent among these are new instructional and communications technologies and the adoption of curriculum materials designed to change what and how students learn. While each of these approaches holds promise for helping teachers improve their instruction, we maintain that they are unlikely to supplant teacher leadership strategies. Fundamentally, both approaches – new technologies and new materials – are human enterprises that require guidance and support for effective use. While new technologies and new curricula may alter the characteristics of teacher leadership work, neither is likely to eliminate the need for this work.

Conclusion

As we have suggested, the image at the heart of teacher leadership – teachers teaching teachers – is intuitively appealing. Because of their own teaching background and connections to the classroom, teacher leaders are an obvious choice for addressing the challenge of going to scale with reforms in mathematics, science and technology education. Given the characteristics of these reforms, some kind of teacher leadership seems almost inescapable in wider strategies for professional development. At present, though, we lack a comprehensive view of what teacher leadership is, how it works, and whether and how well it can be harnessed to reformers' goals. The potential of teacher leadership and its presence in large-scale reforms suggest the importance of additional investigation and well-targeted experimentation.

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